

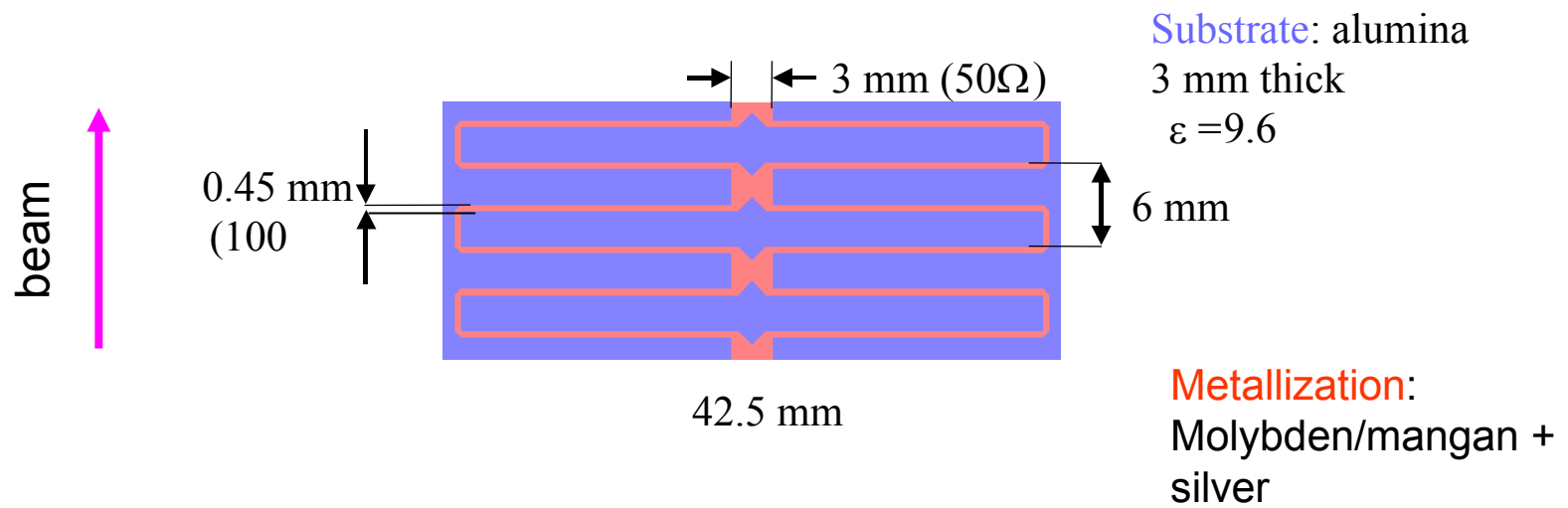
The SPL Chopper-Status Report

F.Caspers

- Motivation and basic concept
- What have we got so far
- Where do we need to go
- What are the constraints
- Elements required for implementation
- Discussion, outlook and near future planning

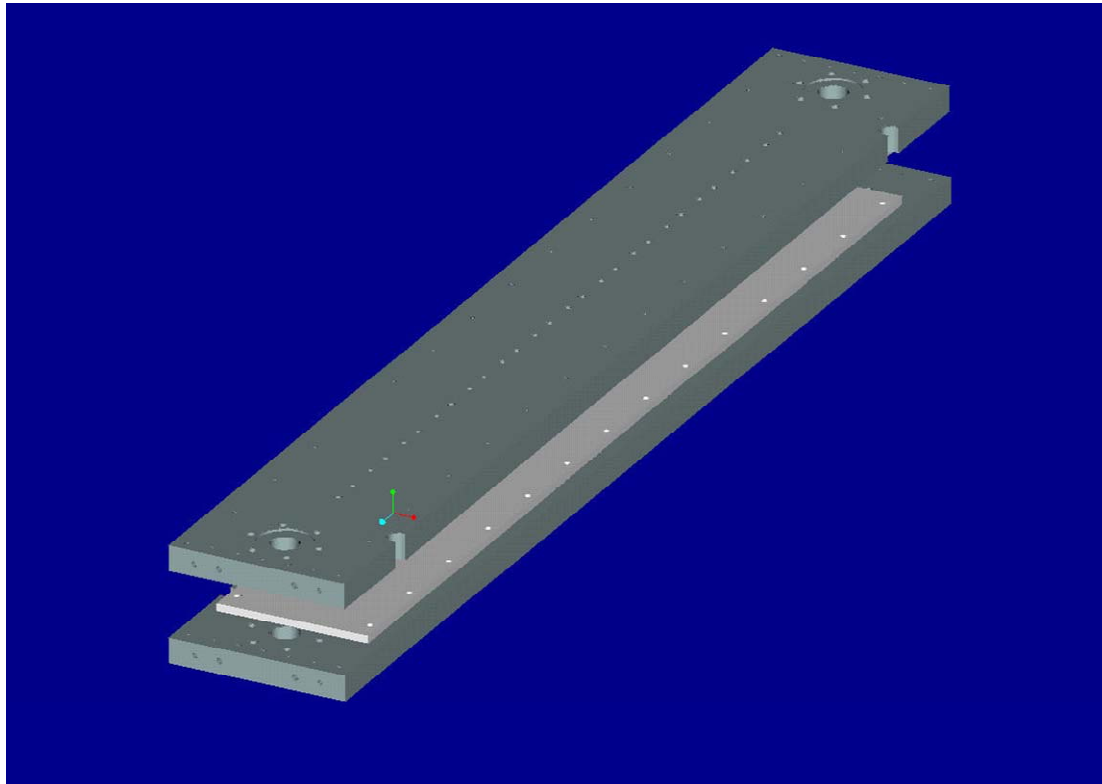
Motivation and basic concept

- A double meander structure (400mm length) printed on an alumina substrate has been designed and developed for our application + parameters ($v/c=8\%$)



What have we got so far

The printed meander lines on alumina with metallic back-plane



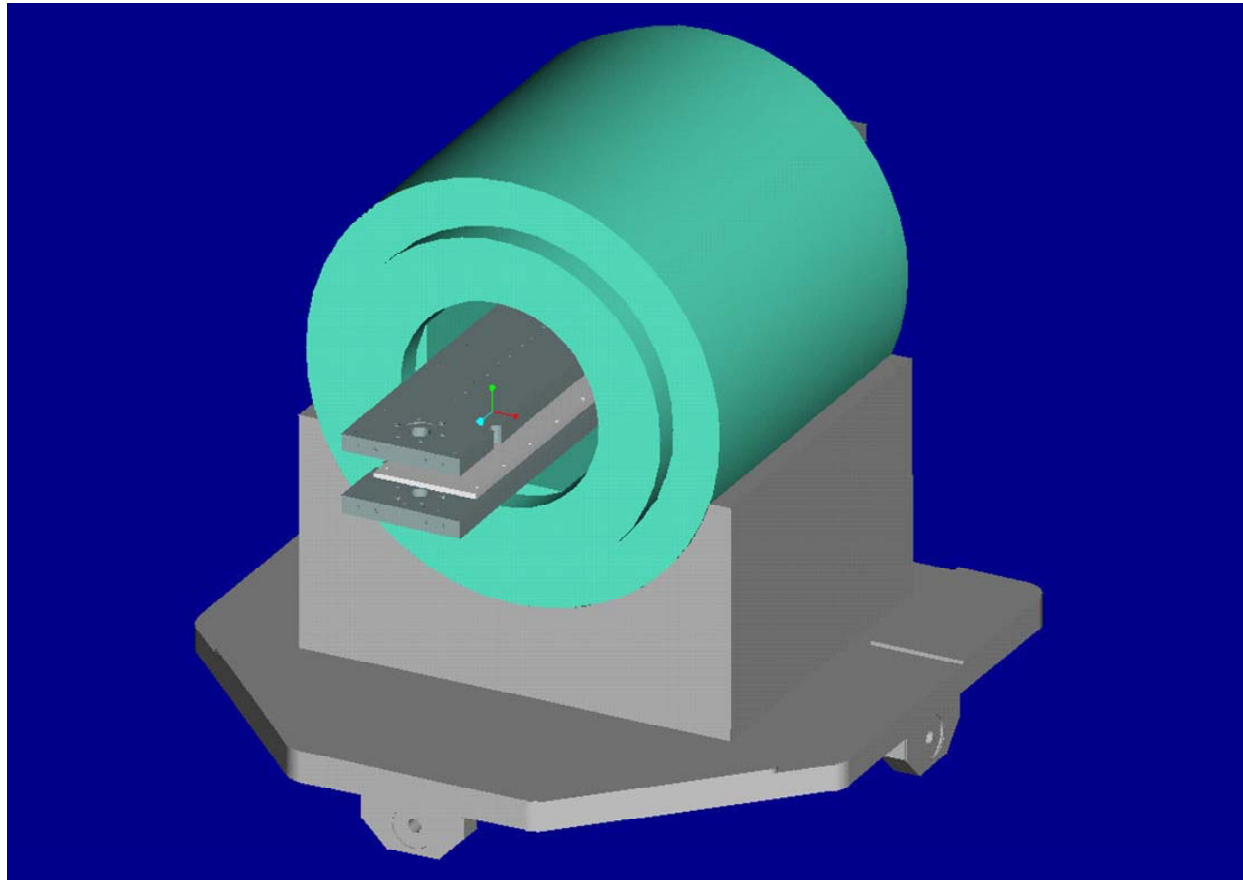
Where do we need to go

- We have to build a vacuum tank around the basic structure shown before
- It has to fit into an available quadrupole which cannot be opened (cut into 2 halves)
- We need water cooling (electrical and beam losses) for the chopper plates

Constraints

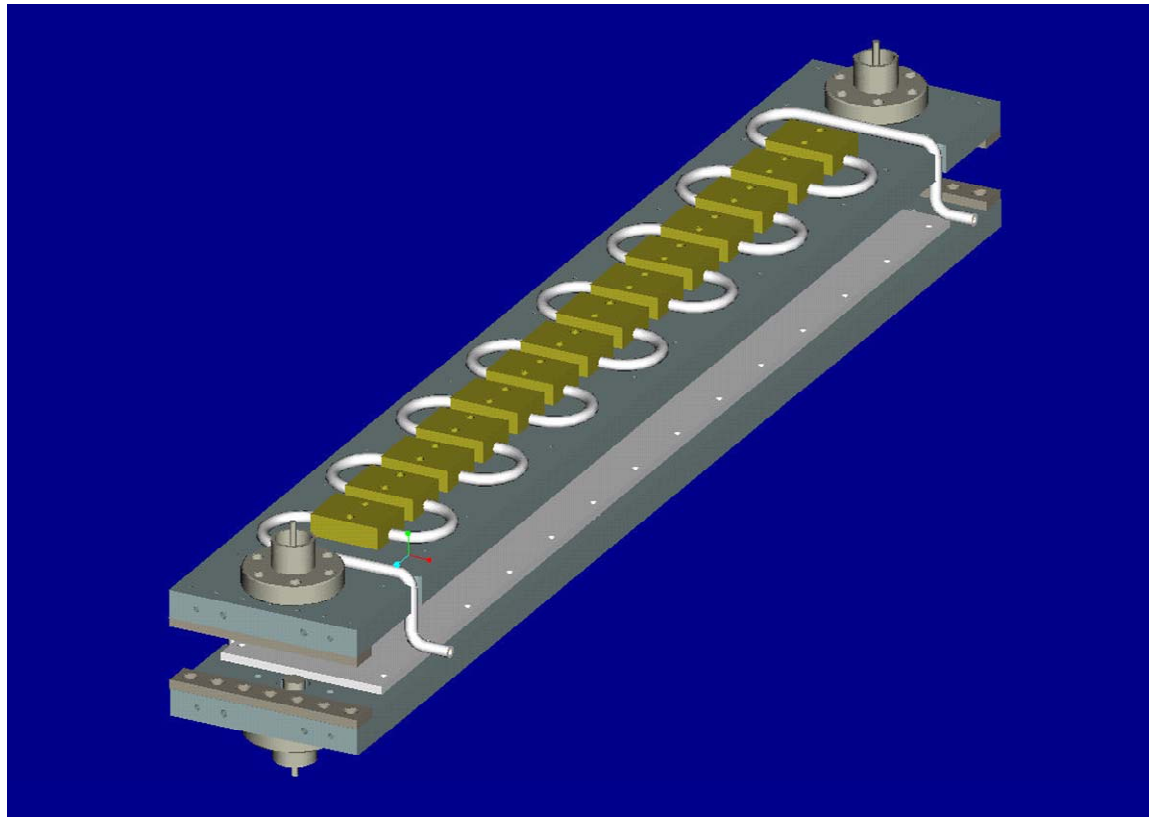
- Maximum length between flanges=500mm
- Chopper plates must be electrically floating (triax system!) wrt ground and to each other.
- Tough space limitation from the quadrupole
- Chopper plates must remain demountable and adjustable, if required

Chopper plates with quadrupole

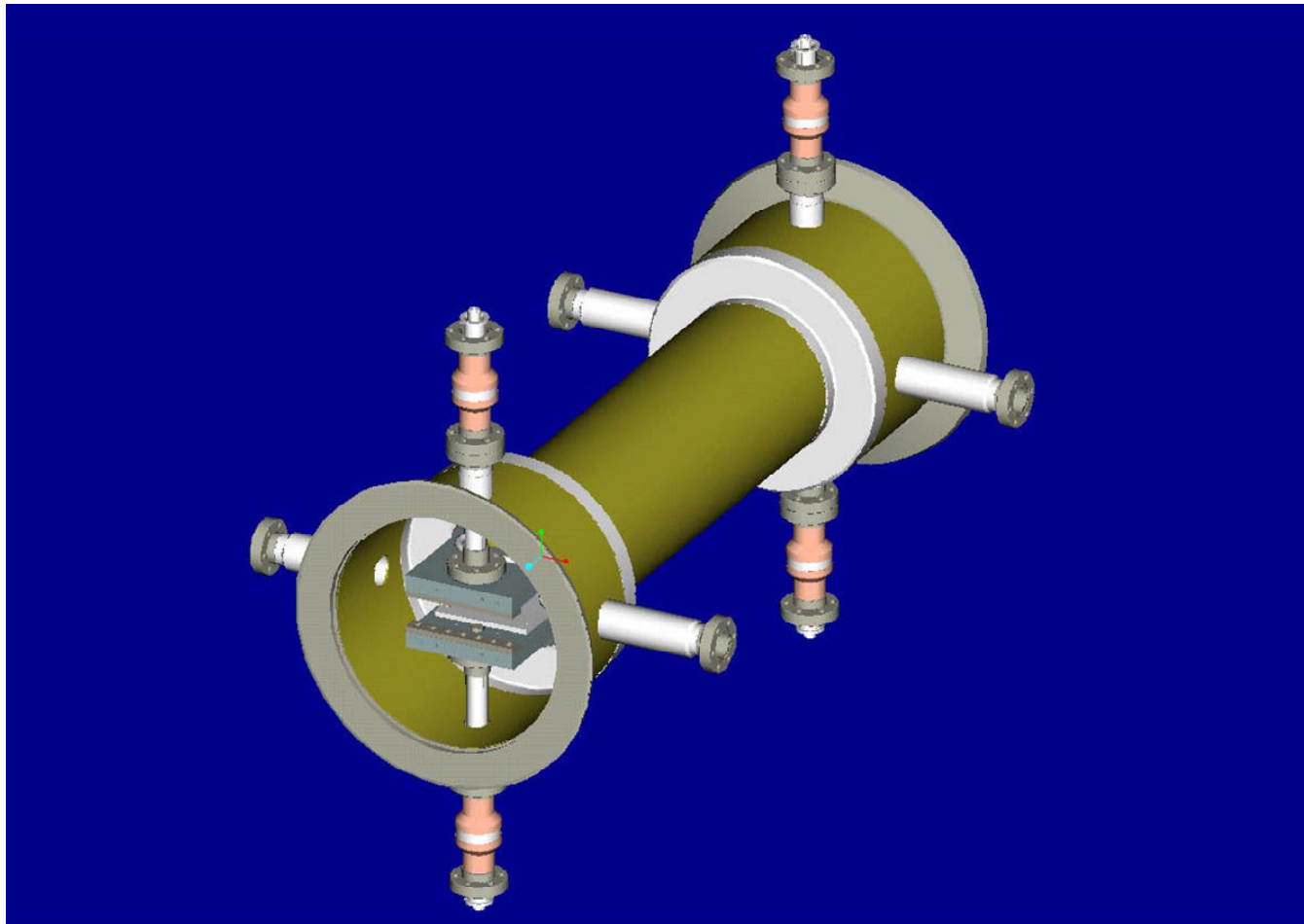


Water cooling circuit

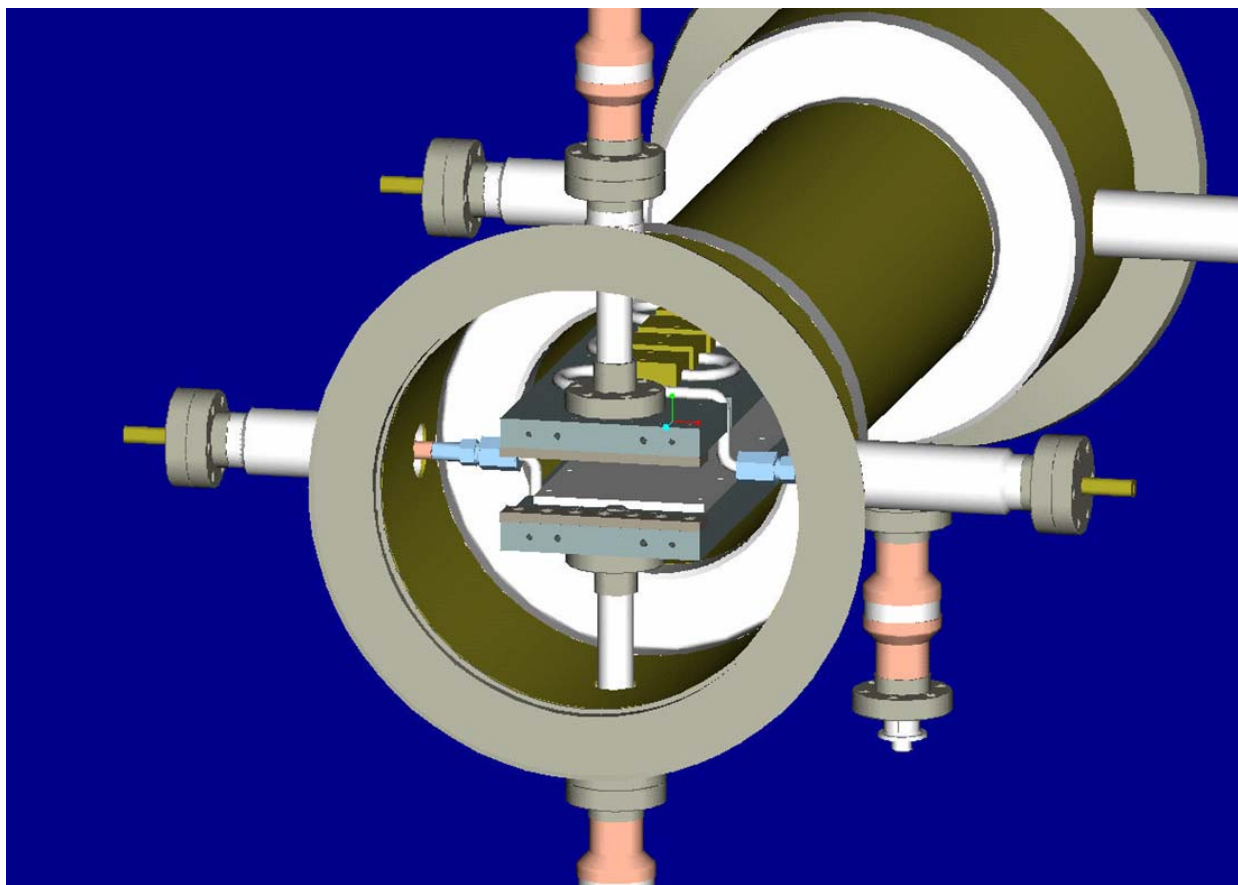
Only upper plate cooling circuit shown here



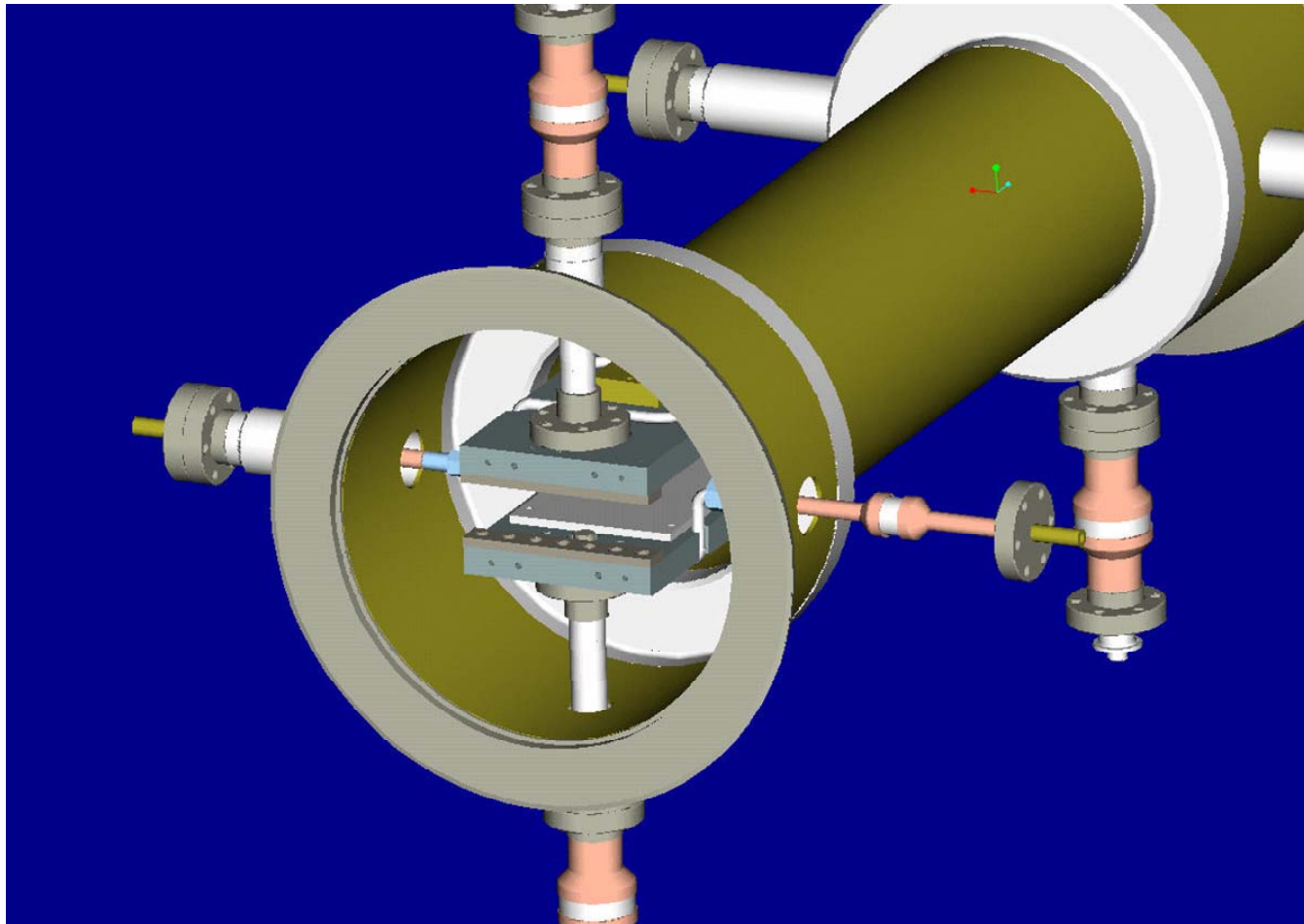
Chopper plates and feed-through



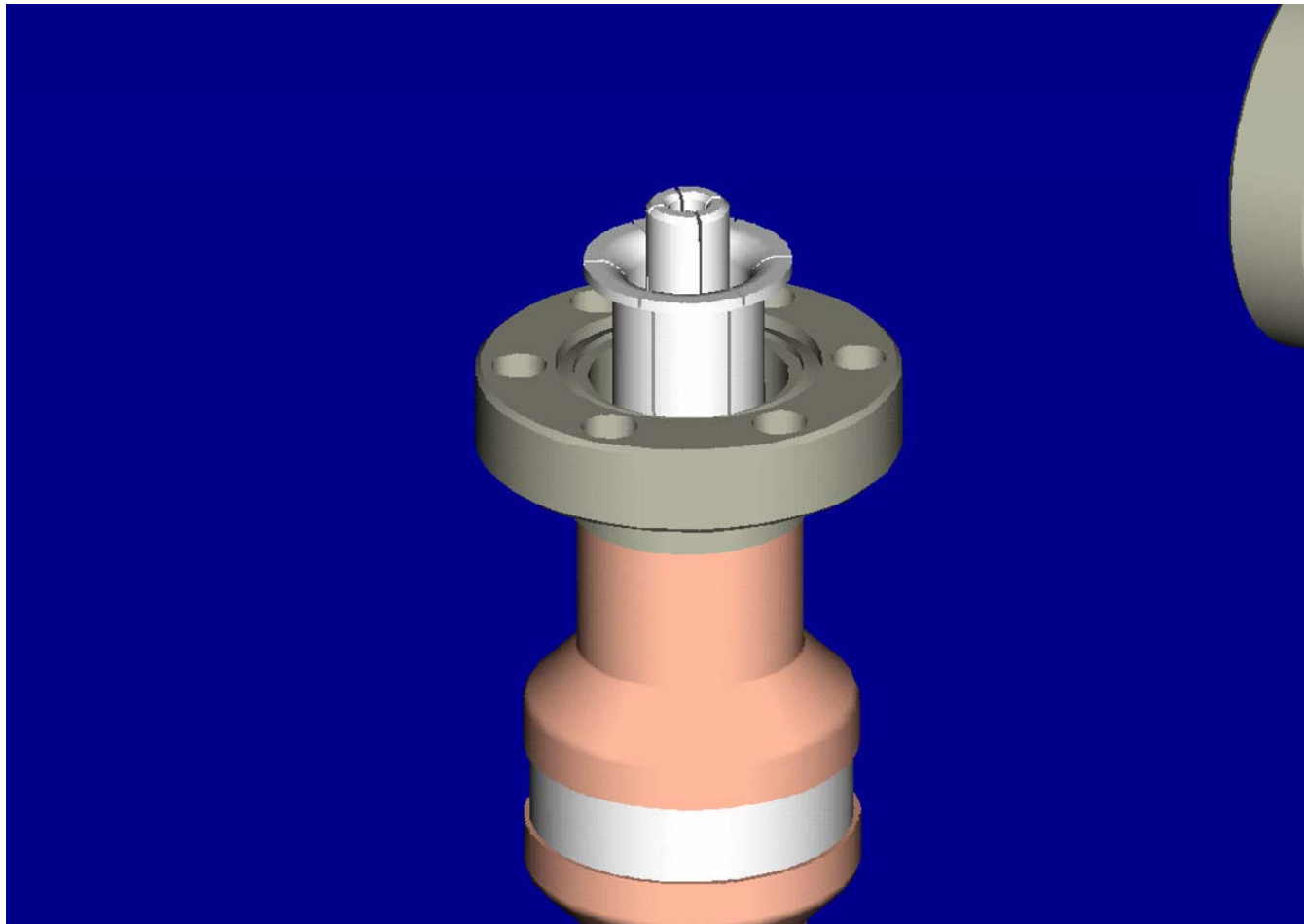
Vacuum tank+ chopper plates +water-cooling



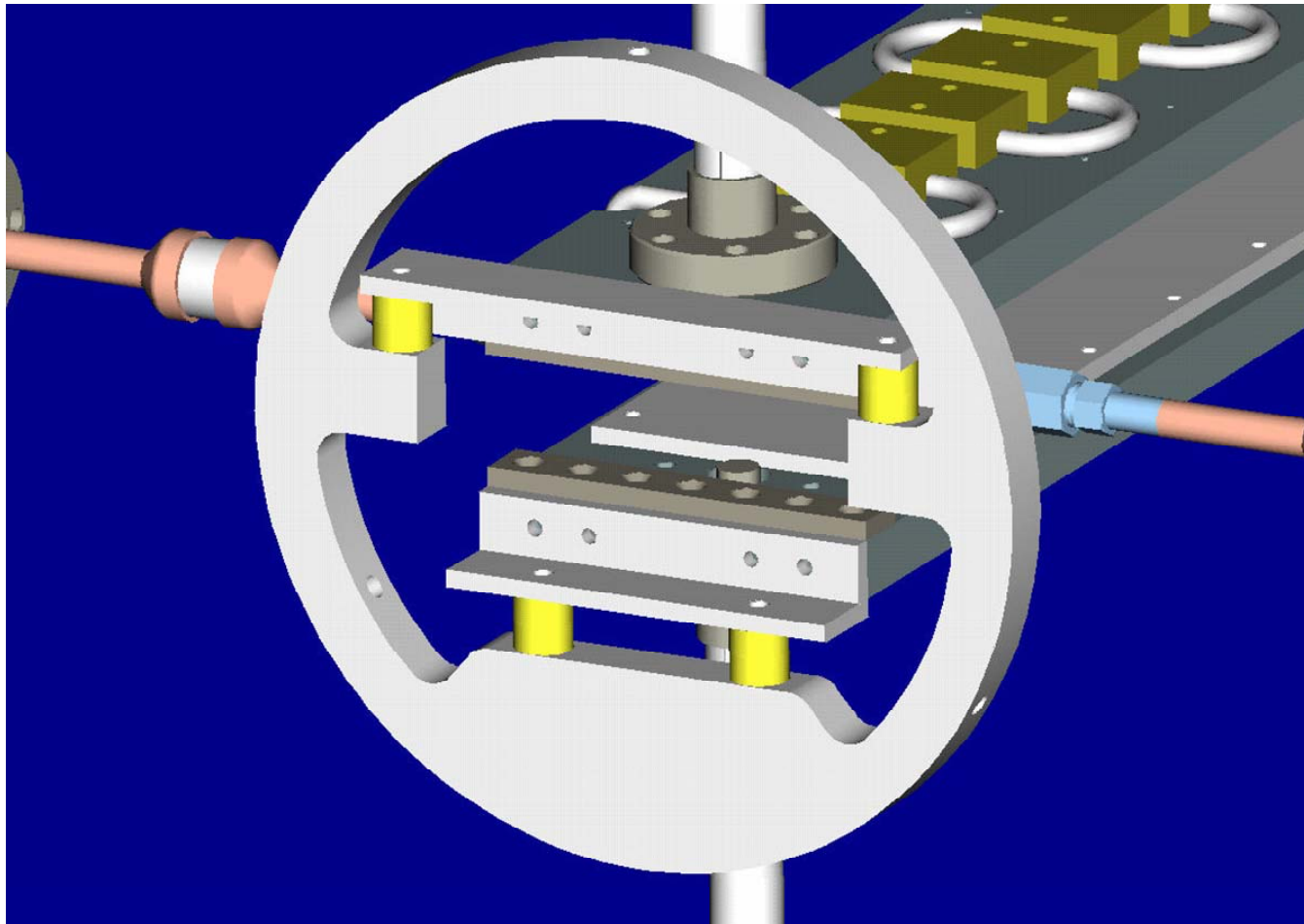
Electrical isolation of water circuit



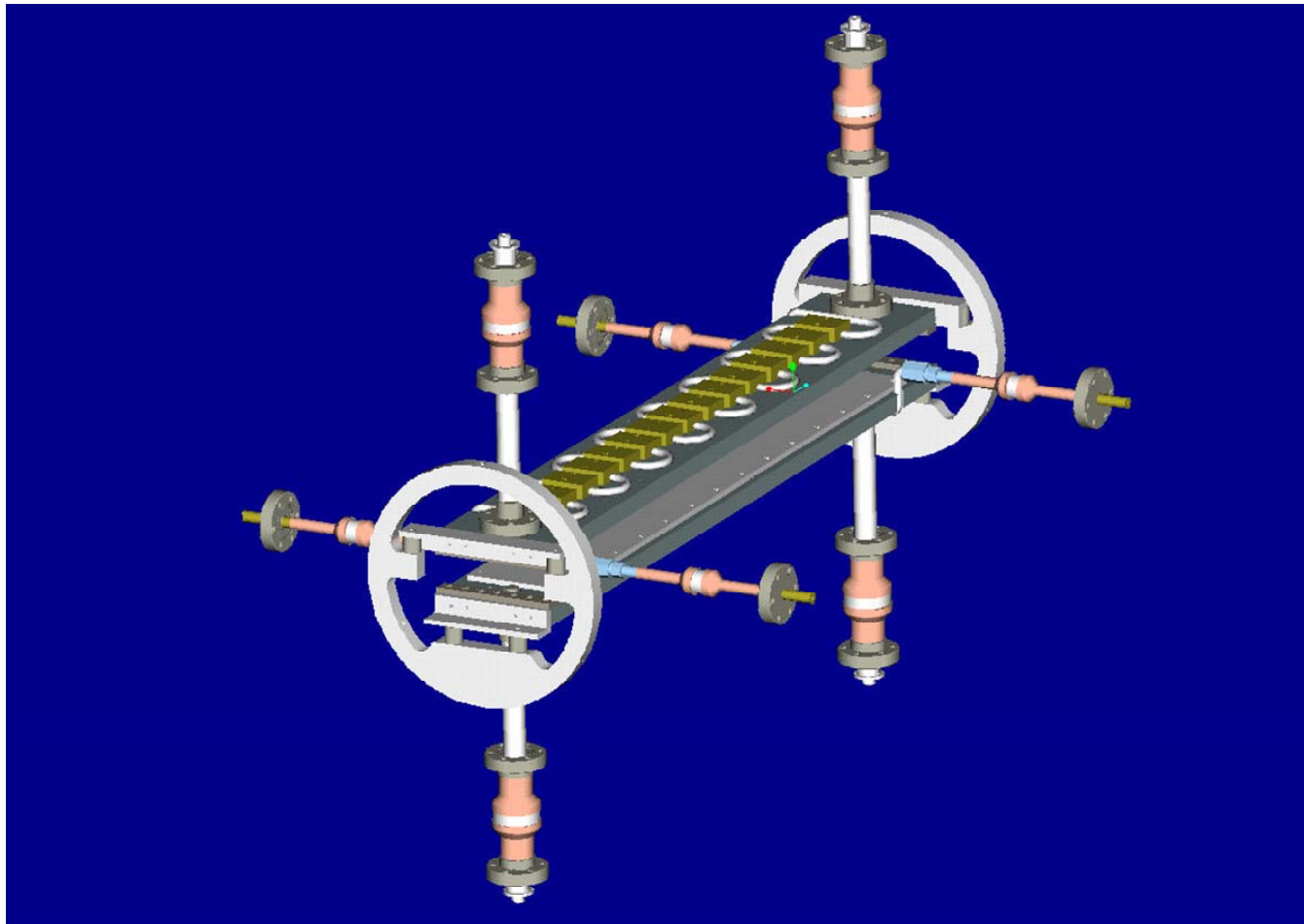
Triaxial feed-through



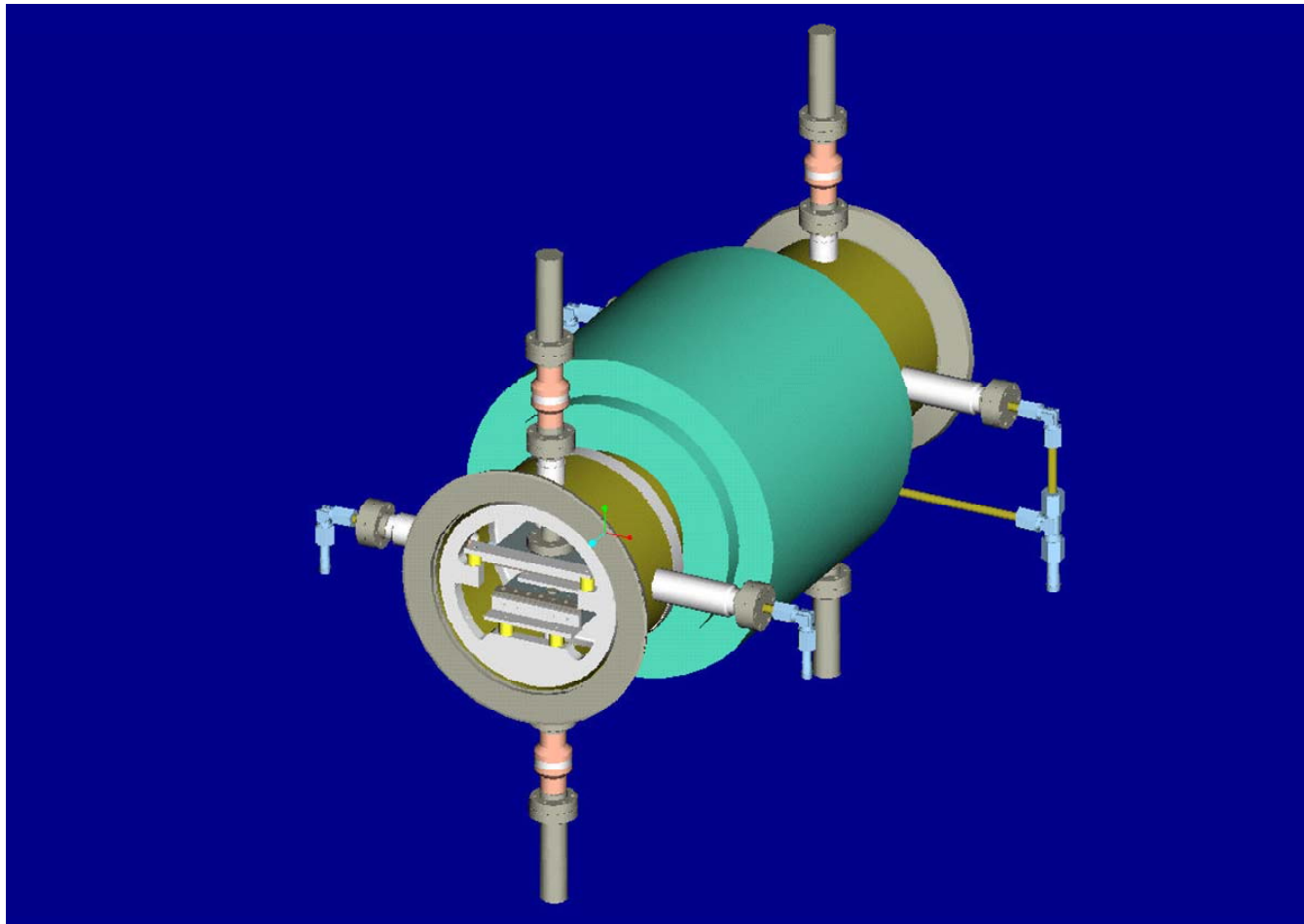
Support for the chopper plates(1)



Support of the chopper plates (2)



Chopper in the quad



Discussion, Outlook

- We hope that the present design fits all the requirements and does not bring along bad surprises.
- The layout has been chosen for a maximum flexibility (tolerances, adjustment)
- If all goes well we can start hardware tests fall 2004.

The latest planning (J. Genest)

- Study of support structure
 - May 2004
- Finalizing design drawings
 - mid May until mid July 2004
- Implementation of hardware
 - mid July until end of August 2004